

## CHANNEL ESTIMATION IN A COMMUNICATION SYSTEM

### ABSTRACT

A method and apparatus for estimating channels in orthogonal frequency division multiplexed (OFDM) communication systems. The method and apparatus allows a channel estimate to be determined independent of having knowledge on channel statistics. Channel estimation is performed by determining and then utilizing a least square (LS) estimate and an interpolation coefficient for each antenna transmitting to the receiver. The interpolation coefficient is determined independently from the statistics of the channel, i.e., without needing the channel multipath power profile (CMPP). The interpolator coefficient is multiplied by an LS estimate for each transmitting antenna to determine the channel estimate for each channel.